

Progress with formulating the NPGS Plan

Peter Bretting
USDA/ARS Office of National Programs
Peter.bretting@ars.usda.gov
1.240.477.9983 (mobile)

NPGS Plan Directed by 2018 Farm Bill

- **SEC. 7205. NATIONAL STRATEGIC GERMPLASM AND CULTIVAR COLLECTION ASSESSMENT AND UTILIZATION PLAN.**
- (a) **IN GENERAL.**—Section 1632(d) of the Food, Agriculture, Conservation, and Trade Act of 1990 (7 U.S.C. 6 5841(d)) is amended—
- (1) in paragraph (5), by striking “and” at the end;
- (2) by redesignating paragraph (6) as paragraph (7); and
- (3) by inserting after paragraph (5) the following:
- **“(6) develop and implement a national strategic germplasm and cultivar collection assessment and utilization plan that takes into consideration the resources and research necessary to address the significant backlog of characterization and maintenance of existing accessions considered to be critical to preserve the viability of, and public access to, germplasm and cultivars; and”.**
- (b) **PLAN PUBLICATION.**—Section 1633 of the Food, Agriculture, Conservation, and Trade Act of 1990 (723 U.S.C. 5842) is amended by adding at the end the following:
- **“(f) PLAN PUBLICATION.—On completion of the development of the plan described in section 1632(d)(6), the Secretary shall make the plan available to the public.”.**

NPGS Plan Directed by 2018 Farm Bill

- **“Develop and implement a National Strategic Germplasm and Cultivar Collection Assessment and Utilization Plan”**
 - **“Assessment [Plan]”**—assess the NPGS’s current status, strengths, weaknesses.
 - **“Utilization [Plan]”**--identify current priorities and demands for plant genetic resources and associated information; forecast future (+5 and +10 years) priorities and demands; develop and implement a plan with priorities and actions to attain goals.

NPGS Plan Directed by 2018 Farm Bill

- **“takes into consideration the resources and research necessary to address the significant backlog of characterization and maintenance of existing accessions considered to be critical to preserve the viability of, and public access to, germplasm and cultivars;”**
 - Summarize current status of NPGS’s operations, and the resources and capacities currently available to support those operations; “backlogs” for characterization, maintenance and other genetic resource management efforts; actions/priorities to attain implementation goals.
 - Characterization and maintenance will be emphasized; acquisition, regeneration, documentation, distribution, evaluation and enhancement must also be covered.

NPGS Plan Directed by 2018 Farm Bill

- **NPGS Plan: Table of Contents**
 - **Summary**
 - **Acronyms and Abbreviations**
 - **Introduction**
 - **Scope and Approach**
 - **Data, variables, and metrics**
 - **Data and information for 75+ measures of genebank operations and status: currently, and forecasts and/or goals for 5+ and 10+ years**
 - **Narrative explanatory text**

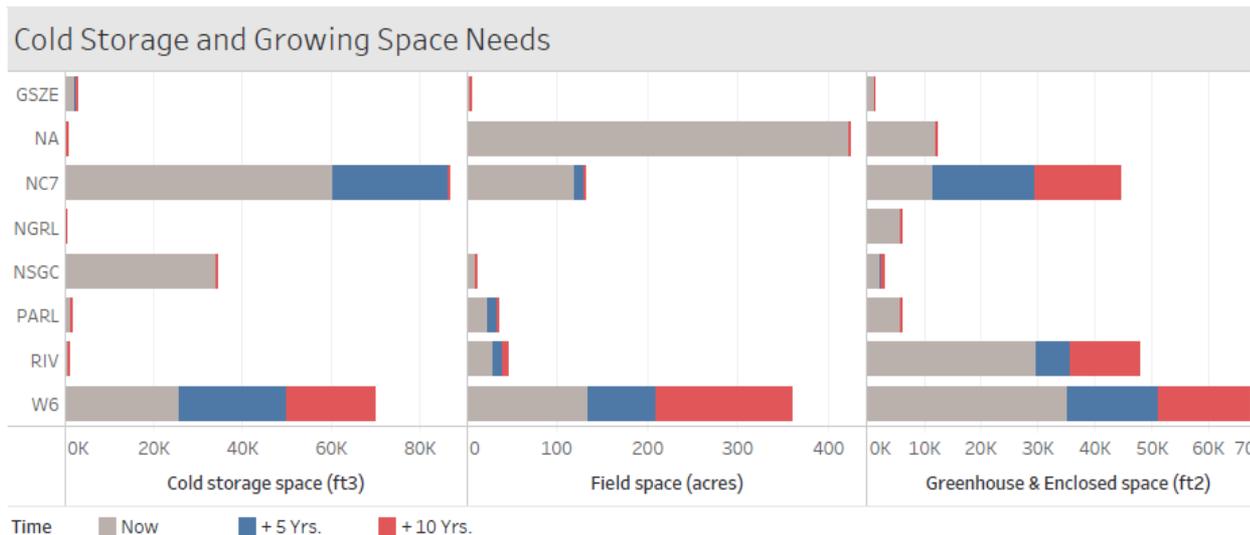
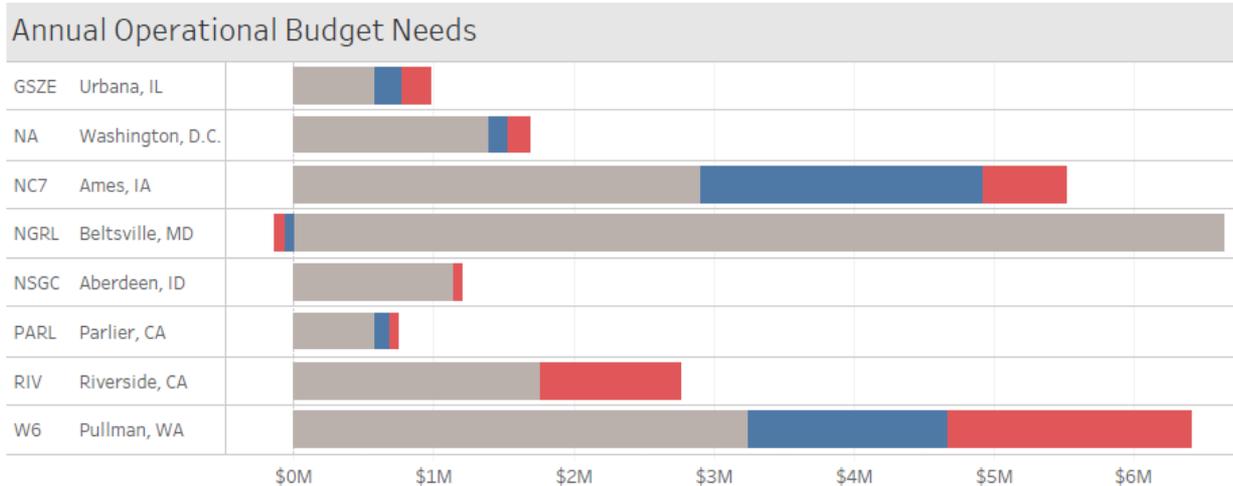
NPGS Plan Directed by 2018 Farm Bill

- **Table of Contents, Continued**
 - **Assessment and Utilization: narrative text, figures, tables**
 - **Background**
 - **Current Status**
 - **Needs**
 - **Implementation: narrative text, figures, tables**
 - **Background**
 - **Goals and Actions**
 - **Literature Cited**
 - **Appendix with additional tables and figures**

Examples of metrics for NPGS genebanks

ARS Crop Genebank Site	Ames, IA	Ames, IA	Ames, IA
Genebank code	NC7	NC7	NC7
<u>1 Infrastructure, capacity and support for NPGS PGR and information management</u>	<u>Now</u>	+ 5 Yrs.	+ 10 Yrs.
<u>Collection size and diversity</u>			
# of genebank taxa	1738	1760	1800
# of genebank accessions	54,967	57,400	60,000
# of different crops (or 44 depending on how you count them)	27	30	30
<u>Financial support</u>			
Annual operational budget (\$; ARS and off-the-top)	\$2,905,618 Total	\$4,927,300	\$5,510,000
<u>Staffing (PI CRIS only)*</u>			
# FTEs permanent	32	40	42
# FTEs temporary	22	27	32
<u>Physical resources (PI only)</u>			
Cold storage space (ft3); +41F; 0F; cryo conditions	60,200 (ft3)	86,200 (ft3)	86,200 (ft3)

Examples of graphics for Plan



Examples of metrics for NPGS crops

[Control Period]	"	"	"
ARS Crop Genebank Site >	Ames, IA	Ames, IA	Ames, IA
Genebank code >	NC7	NC7	NC7
Crop >	MAIZE	MAIZE	MAIZE
	Now	+ 5 Yrs.	+ 10 Yrs.
<u># of accessions requiring controlled hand pollination</u>	7945	5983	1395
<u>% of accessions requiring controlled hand pollination</u>	41	24	5
# of accessions requiring controlled hand pollination regenerated annually	363	1361	1856
% of accessions requiring controlled hand pollination regenerated annually	5	23	33

Status of Plan Development

- **Most of the 20 NPGS sites have completed and submitted the data spreadsheets**
- **Analyzing and correcting the data**
- **Drafting some narrative text (50 pp. so far)**
- **Developing formats for graphics**
- **Draft (ca. 150 pp.?) should be available to NPGCC and NGRAC for review by early autumn**